DOCUMENT RESUME

ED 261 484 EC 180 550

AUTHOR Wilkinson, Cheryl Yelich
TITLE Teacher Interactions with Handicapped and Hispanic Students: An Annotated Bibliography.
INSTITUTION Texas Univ., Austin. Coll. of Education.
SPONS AGENCY Office of Special Education and Rehabilitative Services (ED), Washington, DC.
PUB DATE Jun 85
CONTRACT 300-83-0272
NOTE 55p.; The document was developed by the Handicapped Minority Research Institute on Language Proficiency.
PUB TYPE Reference Materials - Bibliographies (131)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Annotated Bibliographies; *Disabilities; Elementary Secondary Education; *Expectation; *Hispanic Americans; *Interaction; *Limited English Speaking; Teacher Attitudes; *Teacher Student Relationship

ABSTRACT

The annotated bibliography focuses on research regarding teacher interactions with handicapped Hispanic students. Citations and syntheses are grouped along four topic areas: (1) general findings about classroom interactions/expectations and their effects; (2) relationships between ethnicity and classroom interactions/expectations; (3) relationships between handicapping conditions and student/teacher interactions; and (4) relationships between handicapping conditions and teacher expectations. Among conclusions offered are that student ethnicity does appear to effect interaction, as does the presence of a handicapping condition. Although no study cited considered interactions with students who are both handicapped and Hispanic and/or limited English proficient, results of separate studies of these groups suggested that interaction with teachers was likely to be limited in frequency and mainly of a procedural nature. Implications for future classroom interaction research are offered. (CL)

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TEACHER INTERACTIONS WITH HANDICAPPED AND HISPANIC STUDENTS: AN ANNOTATED BIBLIOGRAPHY

by

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Submitted to the U.S. Department of Education
Office of Special Education Programs
Contract No. 300-83-0272
June, 1985

EC180550

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Introduction

A number of researchers have emphasized the importance of classroom interactions in the process of education. The U.S. Commission on Civil Rights study of Mexican-American education (1973) describes the interaction between teacher and student as "the heart of the educational process" and notes that "the way the teacher interacts with the student is a major determinant of the quality of education the child receives" (p. 7). Gay (1975) suggests that educational research comes to consensus on three main points about classroom interaction: "teacher attitudes and behavior play a significant role in the educational process; pupil-teacher interactions comprise the core of the educational process; and continuous systematic analysis of teaching . . . is essential to improving the overall instructional process and the quality of education in American schools" (p. 167).

Given the relationship between the quality of teachers' attitudes toward and interactions with their students and the quality of education in general which has been described above, it becomes critical to ascertain what attitudes and interactions surround the handicapped Hispanic student. Therefore, this document contains annotations which concern several bodies of literature arranged into the following sections: (1) general findings about interactions/expectations and their effects, (2) relationships between ethnicity and classroom interactions/expectations, (3) relationships between handicapping conditions and student/teacher interactions, and (4) relationships between handicapping conditions and teacher expectations.

Several observations about classroom interaction/expectation research may serve as a useful background for the annotations which follow. First, and probably most importantly, no study has fully dealt with the classroom

interactions of, and teacher expectations for, handicapped Hispanics. Therefore, while the studies described here have examined relationships between ethnicity and classroom interactions and have also considered the relationship between a handicapping condition and classroom interaction, what the effect of the presence of both of these variables together may be remains unexplored. It seems possible that an interactive effect will exist in that the classroom interactions of the handicapped Hispanic student will be neither exactly like those of other Hispanics nor exactly like those of other students with similar handicapping conditions.

In addition, as the small number of studies annotated here emphasizes, research in the area of classroom interaction in general is limited. Several reasons for this can be suggested. First, interaction studies demand a great amount of time and resources—conducting the majority of the studies reviewed here involved locating teachers who were willing to admit observers into their classrooms, finding students who fit preset criteria and whose parents gave permission for them to participate in research (often including the release of test scores), and training coders to an acceptable reliability before data collection could even begin. Beyond this, it seems possible that research will always seem limited in comparison to the large number of variables (such as student age or grade, classroom size, teacher training and educational philosophy, gender and ethnicity of teacher and student, etc.) that might affect classroom interaction and therefore could be considered by interaction research.

In considering the studies presented here, it is also important to bear in mind that methods for studying interactions (and also for looking at their relationship to expectations) have been developed fairly recently—mainly within the past 20 years. Initial observation systems focused on the

classroom as a whole. As researchers began to accept and explore the hypothesis that teachers' interaction styles differed among children within the same classroom, new observation methods which allowed the recording of interactions with individual students were developed. While these new systems added a great deal of information about classroom interaction to existing research and in some cases helped to clarify relationships which had been suggested by "whole class" types of studies, their use makes comparison of the results of different studies difficult in that a large amount of disparity exists in operational definitions of student-teacher interaction. Therefore, in considering differences in results across some of the studies presented here, the reader may wish to note which studies have examined interactions with individual students, and which have used group means for a classroom or large subset of a classroom as dependent variables.

Differing measures of interaction are not the only factor which make comparison and generalization of results across the studies presented here difficult. Rather, studies of classroom interaction have also differed in terms of the ages of children observed, the type of classroom considered (regular, bilingual or special education), the variables on which students have been matched (gender, socio-economic status [SES], achievement level, language dominance or none at all) and in approach to data analysis (univariate, multivariate or largely qualitative). It is therefore difficult at this point in time to put together what classroom interaction is like for the "typical" student, much less to describe the interactions of ethnic minorities or handicapped students in any but the most basic ways.

In examining these annotations, the reader will perhaps notice that these studies are all descriptive in nature. Data focus on "what is" in classrooms rather than on "what should be" and how classroom interactions

might be changed to provide the environment which best facilitates learning for all students. This focus on the descriptive represents the state of the art in interaction research rather than an effort to limit the scope of the annotations presented. Several of the researchers whose work is annotated here have suggested that observations, along with both preservice and inservice teacher training, can be used to change teacher/student interaction patterns. It would seem that documenting and improving these patterns for all students, including handicapped Hispanics, is one of the greatest challenges facing future researchers in the classroom interaction field.

1. General Findings

About Classroom Interactions/Expectations and Their Effects

The purpose of this section is to provide the reader with a general introduction to research in classroom interaction and expectations. A first annotation (Brophy, 1979) reviews the history of the interaction field, presents consistent findings and discusses research methodology. A second annotation (Good, 1982) considers similar issues for expectation research. The interested reader is also referred to the Appendix which presents descriptions of the two mostly commonly used research instruments, the Flanders System of Interaction Analysis and the Brophy-Good Teacher-Child Dyadic Interaction System.

Overall, literature reviewed in this section suggests that teacher interactions and expectations differ among students. Interactions/ expectations also appear to be related to student achievement outcomes.

Brophy, J. E. (1979). Teacher behavior and its effects. Journal of Educational Psychology, 71, 733-750.

In this literature review and position paper, Brophy examines past trends and findings in teacher-student interaction research, and makes suggestions for future research methods and areas of inquiry.

Brophy begins by tracing the history of research into classroom interaction. He states that the past several years have seen the beginnings of a coherent body of knowledge which links teacher behavior to student achievement and attitudes and notes that this is a new development. Early studies found little effect of teacher behavior on achievement. Rather, research from the 1960s and early 1970s suggested that student factors determined achievement, giving rise to theories that teaching was an individualized "art," or that curriculum quality was more important than teacher behavior. In addition, suggestions for more research into teaching were ignored by those who felt education already "had the answers."

Brophy goes on to describe influences which changed this attitude. In the early 1970s, social concern about teacher accountability as well as influential reviews of existing literature led to increased interest in interaction research. The availability of National Institute of Education funding led to the development of a planned agenda of several large, field-based, correlational studies, and this work has provided a basis for present research.

Brophy reviews some of the "more interpretable and better replicated" (p. 734) findings which this research has produced. He notes two cautions: first, these findings have mainly come from the examination of basic skills teaching in early grades; and second, they concern cognitive, rather than affective, outcomes. He mentions that teacher behaviors associated with positive achievement outcomes are not the same as and may even contradict those behaviors which facilitate positive affect, and also states that context is important in determining what is "effective" for teachers to do. He suggests that interaction research will never result in "universal" learning objectives or evaluation criteria for teachers.

Brophy first reviews findings about direct instruction. He finds that, in general, students who receive a structured curriculum which is presented by the teacher do better than students with individualized or discovery curricula. The time spent in learning is an important variable in achievement, and teachers who produce the highest achievement gains in their students are effective classroom managers who are able to monitor their classes, involve all students in learning, and generally show "withitness."

Brophy next discusses research on pacing of instruction which supports the idea that students learn the most when they are moved fairly quickly through material which is at an appropriate level of difficulty. Data also stress the importance of presenting tasks which allow high levels of learner success. Brophy cites one study which suggests that recitation questions asked by successful teachers are answered correctly 75% of the time. He notes that teacher expectations affect pacing and students' opportunities to learn. Teachers who are most successful at involving all students in appropriately

paced material believe that their students are capable of learning what is presented and that they themselves are capable of teaching it.

Brophy finds that several process-product (interaction-achievement) relationships suggested by research are context-specific. Use of student ideas and more indirect teaching methods (such as those advocated by Flanders) appear to facilitate learning in middle and upper grades but not in lower grades. Teachers working with high SES or high ability students seem to be most successful if they pace lessons rapidly, communicate high standards and enforce high expectations while teachers who are most successful with low SES or low ability students use a slower pace along with more warmth, encouragement, and personal involvement with students.

Brophy makes two summary comments about interaction research. First, he notes that the variables studied tend to be more "educational" than "psychological," and refer to classroom behaviors for the most part. Second, he points out that, thus far, research is largely empirical rather than theory-based. He attributes this to the fact that classroom research is in its "infancy."

Brophy next considers methodological advances in classroom research. He suggests that a division of variables by Dunkin and Biddle (1974) into four categories (presage or background variables, context variables, process or instructional variables and product or outcome variables) has allowed these variables, especially context, to be more systematically taken into account. Other important methodological improvements, for example, using the teacher (rather than the school) as the unit of analysis, using a large enough sample of teachers to allow for statistical analysis, using pre and posttest designs with matched classrooms, and using a variety of data collection techniques which include both high and low inference measures, have also been incorporated into recent classroom research. He notes that no classroom research study has incorporated all possible design improvements, but that the principle most often violated is perhaps the most basic one: collecting enough data to assure reliable and valid scores. He also suggests that the most interesting new findings about classroom interaction are the result of including context variables in research.

Brophy describes several current research trends which he suggests are counterproductive. The first is an emphasis on case studies to the exclusion of research using larger samples of classrooms. While he feels that there is a need for descriptive research in a number of areas in education, he points out that results of this type of research have frequently been overgeneralized. He also suggests that studies which have attempted to examine some classroom interaction variables in an experimental setting have been premature. While he recognizes the need for controlled studies, he suggests that it is necessary to replicate findings about and understand the contextual meaning of any single variable (such as teacher praise) before it can be moved to a lab setting. He also suggests the possiblity that no single classroom variable is related to enough of the variance in student learning to show effects when it is manipulated systematically in the absence of all other variables. He advises against designs which test models that "predict" student learning based on a number of variables and suggests that efforts to maximize predictive values, such as using composite scores, may confuse their

relationship to teaching outcomes. Brophy prefers instead what other authors have called the "cognitively overwhelming" approach of considering individual variables, their context and how they fit together in patterns.

Brophy next discusses research questions and design features that he feels should receive more emphasis in the future. He believes there is still a need to develop a solid empirical base of process-product outcome data, so that normative information about classrooms is available. He feels that researchers still need to become more familiar with the classroom as a system, so that the meaning of existing data can be better understood. For example, he notes that words that would be coded as "teacher praise" might express approval for academic performance, might be an attempt to motivate students by vicarious reinforcement (e.g., "I like the way ____ is sitting quietly"), might be a "consolation prize" for effort, or might be an attempt to say something positive to maintain communication with a difficult student. Brophy also calls for continued attention to research design, and argues for a "middle course" between a case study approach and a large study approach which involves many classrooms but does not fully examine the range of processes within any one. He further suggests that the relationship between time on task, student engagement, teacher management skills and student learning is well established, and that future research should attempt to move beyond it to observe other relationships. He calls for controlling those variables which are fairly well supported by present research (by excluding teachers with poor management skills from observation, for example) so that other relationships can be illuminated. He also suggests that the sequencing of classroom interactions and dimensions other than verbal interaction should be considered. Overall, he suggests that future research should give indepth consideration to narrower contexts such as presenting new information in lecture, or conveying important points via discussion. This will require the development of short-term learning objectives and methods to measure them, a task which has proven difficult in the affective realm.

Overall, Brophy suggests that research on teaching needs to move beyond the large treatment study paradigm to a limited use of more experimental studies which involve "treatment packages" that combine several teaching variables. He suggests a need to identify further meanings in existing data, and to refine distinctions among classroom processes. He notes that this will mean resisting pressure to produce information which can be used for teacher evaluation or to concentrate on innovation in curriculum and instruction rather than traditional classrooms. He suggests that while linkages between teacher behaviors and outcomes can be developed, the prioritization of these outcomes will always remain a difficult, social policy question. Brophy further points out that at some point, information from research about teaching will need to be integrated with findings from other disciplines in education and psychology, and concludes by stating that "ultimately, we should not only be able to point to clear replicated patterns . . . but also (should) be able to explain why exceptions to this norm occur . . ." (p. 747).

This is a key article in that it pulls together a number of ideas about classroom interaction research findings and methods. The idea of focusing on the limited English proficient (LEP) handicapped child, especially in the bilingual and resource classrooms, would seem to fit in with Brophy's idea that interaction research should focus on more specific contexts and instructional objectives.

Good, T. L. (1982). How teachers' expectations affect results. American Education, 18(10), 25-32.

In this article, Good presents a model which describes how teacher expectations may influence classroom interactions, and reviews research evidence related to it. He also considers the implications of research findings, and offers suggestions for future research.

Good states that interest in teacher expectations began with the publication of Pygmalion in the Classroom in 1968. Results of this research suggested that teacher expectations for students influenced their achievement. However, Good notes that the study did not include classroom observation, so that it was not possible to verify Rosenthal and Jacobson's (the study's authors') hypothesis that achievement differences were caused by differences in teacher behavior.

Good presents a five-step model which describes how teacher expectations might influence student achievement. These steps are: (1) the teacher forms specific expectations for student behavior and achievement; (2) based on these expectations, the teacher behaves differently toward different students; (3) these differences in behavior communicate expectations to students which affect their self-concepts and achievement motivation; (4) if students do not resist the attitudes engendered by the differential treatment they receive, it shapes their achievement and behavior; and (5) as this process continues, student outcomes fall more and more into line with the teacher's expectations. Good notes that this model suggests many areas for research; however, most studies to date have focused on Step 2 (Do teachers treat students who achieve at different levels differently?) and have focused mainly on verbal behavior.

Good next lists differences which have emerged from classroom studies in teacher treatment of high and low achievers. In comparing teacher behavior with the two groups, he finds that teachers wait less time for lows to answer, more often give lows the answer rather than trying to have them "think through" a question, reward lows inappropriately more often, criticize lows for failure more often, praise lows for success less often, pay less attention to lows and fail to respond to them more frequently, call on lows less frequently and generally demand less from them, seat lows farther away from themselves, interact with lows in private more frequently, structure lows' activities more, give lows the benefit of the doubt in grading more frequently, interact with lows in a less friendly nonverbal manner, and give lows briefer and less informative feedback to questions. Differences which are similar to those listed above have also been found in reading group settings. Good suggests that these behaviors should not be seen as "bad teaching" but should provide the basis for studying the effects of particular teacher behaviors on particular students.

Good also notes that not all teachers show the same patterns of interaction with low-achieving students. One estimate, based on several studies, suggests that about one-third of teachers conduct their classroom in the manner described above. Good refers to this group as "overreactors" who

are greatly influenced by their students' achievement levels. A second group, described as reactive, allow high-achieving students to dominate the class, but only because these students most often volunteer answers. A third, proactive group structures their classroom so that the needs of both groups of students can be met.

Good notes that while differences in teacher behavior are fairly well documented, the effects of these differences on students have not been studied systematically. Evidence which exists does suggest that students perceive differences in teacher behavior and that certain practices harm students' attitudes and achievement. Good suggests that differences between individual teachers which a child encounters over time and from class to class (for example, the difference between an overreactive and a proactive teacher) may be confusing to the low achieving child, and cause him/her to adopt a passive, nonresponding style. He states that future research should consider conditions under which changes in instructional style are and are not beneficial to students.

Good next examines the implications of teacher expectation research, although he points out that since teachers differ in style and since the variables affecting teaching and learning are "numerous, complex and interrelated" (p.29), general "rules" for good teaching are difficult to formulate. He suggests that inservice training and observations which allow teachers to interact with each other as professionals can be useful in helping teachers to interact with their students in new ways. He further suggests that presevice and inservice training should help teachers to monitor their own teaching style and to develop strategies for dealing with student failure, which is a natural part of the learning situation. Instruction is also needed to help the teacher coordinate beliefs about instruction and actual behavior. Finally, he states that teachers should also be encouraged to develop continuity across grade levels in their school, and to communicate consistent (and hopefully high) expectations for students as they progress in school.

Good concludes by suggesting areas for future research. He feels that the most serious omission of research thus far is the lack of consideration of the role the student plays in setting and maintaining teacher expectations. He suggests that the influence of teacher preferences and norms and the influence of class composition on teacher behavior should be examined, and also notes that the effects of teachers' expectations about student conduct (rather than just achievement expectations) have yet to be considered. In addition, he points out that most research has used year-end achievement tests as the measure which is related to teacher variables, and suggests that teacher expectations and behavior should be linked to more immediate outcomes, such as what the students learn during a particular week. He notes the need for further research into the effects of grouping within classrooms, and concludes by suggesting that the effects of expectations other than the teacher's should be considered. For example, effects of community or administration expectancies for classrooms and achievement might be assessed.

This article summarizes a huge amount of information in an interesting way. Good's contrast of an expectation model with available research gives a good idea of how much remains unknown about classroom processes in general,

and some idea of the many studies which would need to be carried out to fully document teacher expectations and classroom interaction patterns for the limited English proficient (LEP) handicapped child.

2. Relationships between Ethnicity and Classroom Interactions/Expectations

The studies presented in this section focus on teacher-student interactions with, and expectations for, Hispanic students. These interactions and expectations are examined within three contexts: (a) the regular classroom, (b) the bilingual education classroom, and (c) special education referrals. Following a general review of the literature by Gay (1975), annotations are presented in this context order.

The largest number of studies (U.S. Commission on Civil Rights, 1973; Laosa, 1979; Buriel, 1983) focus on the regular classroom. While differences among their results exist, there is consistency in one major finding: There are differences in teacher interaction patterns with Hispanic and Anglo students. All studies find some grades or situations in which some form of interaction (either teacher acceptance or information giving) is more limited for Hispanic than for Anglo students. A study of regular classroom teachers' expectations (Campos, 1983) also reports differences across groups.

Studies for other contexts are both more limited and contradictory, although both studies of the bilingual classroom presented (Townsend & Zamora, 1975; McClure, 1978) report higher amounts of student-teacher interaction in bilingual than in regular classrooms.

Gay, G. (1975). Teachers' achievement expectations of and classroom interactions with ethnically different students. Contemporary Education, 46(3), 166-172.

This literature review presents "state of the art" (as of 1975) research findings about teacher interactions with and expectations for minority group children. It begins by raising questions about how schools currently deal with ethnic minority children, and how the education system can better accommodate children who hold cultural codes and values which are different from those of the school. Gay suggests that research in this area is necessary to determine both changes in programs and educational priorities for culturally different students.

In reviewing research on teacher-student interaction in general, Gay finds consensus on three major points: (a) Teacher attitudes and behavior play a significant role in the educational process; (b) the core of the educational process is comprised of pupil-teacher interactions; and (c) to improve the overall instructional process, continuous, systematic analysis of teaching is necessary.

In applying these findings to the minority child, Gay notes that the teacher is a "significant other" in the lives of his/her students, and influences self-perception as well as academic performance. She points out that middle-class Anglo teachers may find it difficult to relate to and communicate with ethnically/culturally different children, and that this will influence teaching, learning and interaction in the classroom.

Gay next considers specific areas of interaction research. She begins by noting that past research on teaching has focused on teachers' verbal interactions with the entire class. However, recent research focuses on the causal relationship between characteristics of the student and the behavior pattern with which the teacher responds.

Gay continues by describing empirical research on the correlation between differential expectations for students' academic performance and teacher behavior. These studies have used two types of instruments: (a) the Flanders System of Interaction Analysis, in which the unit of analysis is teacher interaction with an entire class; and (b) the Teacher-Child Dyadic Interaction System, which describes teacher interactions with indivdual students. Other measures such as self-report inventories, sociometric scales and bipolar semantic differential scales have also been used. Gay states that the results of these investigations provide descriptions of how teachers behave toward students and the opportunities that they make available to students in the classroom, and concludes that these behaviors and opportunities are "largely functions of their (teachers') perceptions and expectations" (p. 167).

Gay next considers results of research on teacher expectations. While she acknowledges the methodological flaws of the original study in this area (Rosenthal & Jacobson, 1968), she maintains that the study's major finding--that teachers' academic expectations influence teacher and student behavior--has been substantiated by other studies. The only point of controversy is whether these expectations can be generated by "artificial"

manipulation (such as a false IQ score), or are actually established by naturalistic factors such as communications from other teachers, cumulative achievement records, test scores and physical characteristics including sex and ethnicity. She notes that, while some of these factors (such as sex and ethnicity) may not be valid determinants of expectations, (i.e., these factors may not consistently relate to any one pattern of student achievement or behavior), they may still strongly influence the expectations a teacher holds.

Gay next turns to empirical literature which may support her hypothesis that ethnicity influences expectations and interactions. She reviews results of the U.S. Civil Rights Commission study of Mexican-American education in the Southwest (Jackson & Cosca, 1974; annotated elsewhere). These results suggest that praise and encouragement, time spent asking questions, acceptance and use of student ideas, student talk, and other related variables occurred more frequently for Anglos than for Mexican-Americans. She also cites other studies which have found that teachers expect the quality of work from White students to be higher than the quality of work from Black students.

Gay concludes by stating that, although research exists on teacher's expectations for and interactions with ethnically different students, there are too few studies to be conclusive. These results can, however, be suggestive, and support the idea that student ethnicity is a major determinant of what happens to a student in the classroom.

This article is interesting in that it draws together studies from the two areas of interaction and expectation and synthesizes them. It is now somewhat dated, although it covers most major studies which precede it.

United States Commission on Civil Rights. (1973). Teachers and students: Differences in teacher interaction with Mexican-American and Anglo students. Report V: Mexican-American education studies. Washington, DC: U.S. Government Printing Office. Also reported in: Jackson, G., & Costa, C. (1974). The inequality of educational opportunity in the Southwest: An observational study of ethnically mixed classrooms. American Education Research Journal, 11(3), 219-229.

This study compared teacher-pupil interactions of Mexican-American and Anglo students using data from classroom observations. Data were obtained as part of a U.S. Commission on Civil Rights study of Mexican-American education in the Southwest.

Data were collected during observations of 429 classrooms from a randomly selected sample of 52 schools in three states (California, New Mexico and Texas). Classrooms were drawn from a sample of 4th, 8th, 10th and 12th grade English Language Arts classes. A 10-minute sample of teacher-pupil interaction in each classroom was coded using the Flanders Interaction Analysis system. This system provides for the coding of 10 behavior categories, including 7 categories of teacher behaviors, at 3 second intervals. It was modified for this study to include only behaviors which involved individual students, and provisions were made to allow for recording the ethnicity of the student. Coders were trained to a reliability of .85,

and rechecks of their reliability during data collection exceeded this number. In addition to interaction coding, information on 22 other characteristics of teachers, classrooms and schools included in the sample was collected. These characteristics included such things as percentage enrollment and SES of Anglos and Mexican-Americans within each school, seating arrangements and ethnic distributions within each classroom, and teacher age, sex, ethnicity and education level.

Average frequencies for each Flanders category for Anglo and for Mexican-American students were compared using a series of t-tests for matched samples. One-way ANOVAS were used to examine the effects of teacher, classroom and school characteristics.

Six interaction measures differed significantly between the two groups. Anglo students received approximately 36% more instances of teacher praise, 40% more instances of teacher acceptance, 21% more teacher questions, 40% more instances of teacher positive feedback and 23% more total non-criticizing teacher talk. Mexican-American students spoke less frequently in class than did Anglo students, with Anglos speaking about 27% more of the time than Mexican-Americans.

Only three of these differences were related to the teacher, classroom or school characteristics examined. The greatest disparity in the amount of praise given to the two groups was found in classes where seating was assigned by ability level, and in classrooms with Mexican-American teachers. The greatest disparity in amount of teacher acceptance and use of ideas was found for schools in which Anglos and Mexican-Americans were distributed fairly evenly throughout all classrooms. Finally, the disparity in "all positive feedback" was greatest in classes with seating assignments based on ability and in schools with ethnically mixed classrooms.

The authors feel that their data may actually underestimate the disparity between teacher interactions with Anglo and Mexican-American students. They point out that most of the teachers observed knew that the observer was from a Civil Rights agency and that schools in districts with records of federal investigation or prosecution for civil rights violations were excluded from the sample. They examine the literature related to teacher interaction and student achievement and conclude that "the available evidence shows great consistency in the relationship between student achievement and teachers' behavior involving certain forms of praise, the acceptance and use of students' ideas, and the questioning of pupils" (Jackson & Cosca, p. 227). They suggest that "behaviors of teachers in the Southwest are at least partly contributing to the poor academic achievement of many Chicano students" (Jackson & Cosca, p. 227) and maintain that instructional practices must be changed to afford equal educational opportunity to Mexican-American children.

This study has been criticized for several reasons. Buriel (1983; annotated elsewhere) points out that it is not clear whether findings are really due to students' ethnicity or are the result of variables which might covary with it, such as SES. He further notes that effects of student achievement were not controlled, and states that using groups within the classroom rather than the student as the unit of analysis, is a questionable procedure, since it assumes that the teacher treats all individuals in the

group in the same way. Nonetheless, the large scope of this study makes it impossible to entirely disregard its findings. One can only wonder what level of disparity in interaction might have been observed for the handicapped Mexican-American or handicapped LEP student.

Laosa, L. M. (1979). Inequality in the classroom: Observational research on teacher-student interactions. Aztlan, 8, 51-67.

This article briefly reviews classroom interaction literature and reports the results of a study of the influence of student ethnicity, gender, and degree of bilingualism on classroom interaction. The author notes that four factors show a consistent relationship to student-teacher interaction patterns, and summarizes them as follows:

1. Student race/ethnicity. In general, teachers hold less favorable attitudes toward and lower expectations for ethnic minorities. In addition, since individuals from different cultural groups do not share implicit patterns of expectations and meanings of behavior, many opportunities for favorable interaction may be lost.

2. Student socioeconomic status (SES). There is a tendency for teachers to view lower SES children less favorably and for them to give more praise (both verbal and nonverbal) and rewards to higher SES pupils.

3. Student achievement. Teachers address a greater number of favorable comments to higher achievers and provide them with a greater number of response opportunities.

4. Speech characteristics. Teachers perceive students who speak non-standard English less favorably than students who speak standard English.

Laosa concludes that, given these patterns, a Mexican-American student is likely to be treated differently than an Anglo student in the classroom. To explore these differences, he conducted an observational study of 14 classrooms (eight kindergarten and six second-grade) in five schools.

Subjects were 138 children (69 kindergarteners and 69 second graders) and their instructors. Instructors included credentialed teachers and paraprofessional aides, and in some cases, parent volunteers and cross-age tutors. Students were matched into threesomes such that each group contained one Anglo, one English-dominant Mexican-American and one Spanish-dominant Mexican-American. Language dominance was established on the basis of scores on the Carrow Test for Auditory Comprehension of Language. All members of each threesome were the same sex and were matched on occupational status of head of household, reading achievement scores and math achievement scores. Finally, threesomes were matched across grade levels.

No information is given concerning the methodology used for subsequent observations or about data analysis procedures.

Laosa reports that "both the ethnicity and language dominance of the students had a significant effect on classroom interaction," and finds that relationships among these variables changed with grade level. Mexican-American kindergarten students received fewer disapprovals and more nonevaluative, academic, or academically related information from teachers than did Anglos, while for second graders, the reverse occurred. Data also suggest that Mexican-American kindergarteners received cognitively stimulating interactions less frequently than did Anglo kindergarteners.

Language dominance, rather than ethnicity, appeared to influence teacher disapproval. The number of disapprovals received was lower in second grade than in kindergarten for Anglos and Mexican-American English dominants, but was higher in second grade for Mexican-American Spanish dominants. Gender did not appear to influence approval/disapproval patterns.

Data also show differences in students' classroom behavior. Verbal requests for teacher attention were less frequent in second grade than in kindergarten for Anglos and Mexican-American English dominants, but were more frequent in second grade than in kindergarten for Mexican-American Spanish dominants. Laosa notes that these increased requests occurred along with the increased disapprovals noted above.

Laosa points out that his data are cross-sectional rather than longitudinal, but speculates on the effects of the patterns he observes. As the Spanish-dominant Mexican-American child goes on in school, he/she is likely to receive less nonevaluative or academic information and more teacher disapproval, with the possible result of academic alienation. Laosa further notes that the classrooms which he studied had bilingual, bicultural education programs, but that these programs, as implemented, did not guarantee equality of education for the Spanish-dominant child. He suggests that observation is needed as a method of increasing teacher awareness of interaction style and as a part of teacher training.

Several criticisms of this study can be offered. First, because Laosa does not describe his observation and analysis procedures, it is difficult to evaluate the results of his research. Buriel (1983, annotated elsewhere) also notes that Laosa's study uses a fairly unconventional definition of the term "teacher" in that it includes aides, parent volunteers and cross-age tutors, all of whom may interact in different ways with their students. However, these results are not inconsistent with other studies annotated here, and suggest once again that there is a need for teachers to be made aware of their interaction patterns with various groups.

Buriel, R. (1983). Teacher-student interactions and their relationship to student achievement: A comparison of Mexican-American and Anglo-American children. Journal of Educational Psychology, 75(6), 689-697.

The purposes of this study were to examine teacher-student interactions in integrated classrooms that include Mexican-American and Anglo-American students and to examine the relationship between student-teacher interaction and students' achievement. The author notes that despite national debate over

school integration and minority parents' concern over the quality of education their children receive, only two previous studies (U.S. Commission on Civil Rights (1973; annotated elsewhere) and Laosa (1979; annotated elsewhere) have examined teacher-student interactions involving Mexican-American children. Buriel states that these studies have failed to control for potentially confounding variables such as student SES and gender, and level of teacher training. They have also focused on interactions within a whole classroom rather than interactions with individual students.

Subjects for this study were 99 fourth- and fifth-grade students (22 Mexican-American boys, 18 Mexican-American girls, 30 Anglo-American boys and 29 Anglo-American girls) and their teachers (2 Anglo-American females, 2 Anglo-American males and 1 Black female). Children were enrolled in five classrooms in three integrated elementary schools. All Mexican-American children were English dominant, and Anglo and Mexican-American children's family SES, and combined reading and math achievement scores did not significantly differ.

Classrooms were observed for 24 hours over a two-month period using the Brophy-Good Dyadic Interaction Observation System. The system is designed to record interactions between the teacher and each student in the classroom so that the student, rather than the classroom, is the unit of analysis. Observers were trained in the use of the Brophy-Good system to an average reliability of 80%, and were unaware of the purpose of the study.

Fourteen teacher-student interaction variables, each of which had an intercoder reliability of 80% or better, were included in data analysis. These included process and product questions, and several types of teacher praise and teacher criticism.

A preliminary data analysis focused on the rate of correct responding by students from each gender and ethnic group. No signifcant effects were found, causing Buriel to rule out differential rates of correct responding as a potentially confounding variable in the present study.

Interaction data were analyzed using a three-way ANOVA with ethnicity, sex and classroom as independent variables. Two significant effects for ethnicity were found: Anglo children received a greater proportion of product questions and more teacher affirmation following correct responses than did Mexican-American children. Follow-up analyses revealed that the difference in product question proportion was signifcant for only one classroom. Girls were found to initiate more work-related contacts with teachers than boys, and classroom main effects were found for nearly all variables, suggesting that the Brophy-Good Observation System successfully reflected differences in individual teachers' teaching styles. No significant ethnicity by sex, or ethnicity by classroom interactions were found.

Data from each of the 14 interaction variables were also correlated with combined math and reading achievement scores on the California Test of Basic Skills. Several significant correlations were found. For both groups of students, achievement was negatively correlated with criticism in work-related contacts and positively correlated with work-related contacts involving noncriticizing teacher feedback. For Mexican-American children, process

questions, work-related contacts initiated by students and correct answers followed by teacher affirmation were significantly and positively correlated with achievement while non-work-related contacts involving teacher criticism were negatively and significantly correlated with achievement. Fischer's Z tests showed that the magnitude of the latter two correlations was significantly higher for Mexican-American than for Anglo children.

Buriel concludes that even with several potentially confounding variables controlled, ethnicity still affects teacher-student interaction. Teachers used less affirmation following correct responses with Mexican-American than with Anglo-American students. While this was only one of a number of interaction variables examined, Buriel points out that it is important in two ways. First, since teachers in this study rarely used praise, affirmation was the most salient teacher reinforcer of student effort. Second, this interaction variable was related to achievement for Mexican-American students. Buriel notes that since achievement test scores were taken from beginning of year testing, it is unlikely that teacher praise caused higher scores. Rather, the difference in teacher praise observed is probably a response to student performance, and suggests that teacher affirmation is contingent on good academic performance for Mexican-Americans but not for Anglo-Americans. Buriel notes that relationships among ethnicity, achievement and criticism are more consistent in that, in all cases, greater teacher criticism was associated with lower student achievement.

Buriel suggests that his study is limited in several ways. First, it did not take place in bilingual classrooms and is probably not applicable to them. Second, although careful procedures were used to ensure that findings described typical teacher behavior, results are based on a small number of classrooms and children. Overall, however, this study represents the most carefully controlled research which considers ethnicity and classroom interaction that is currently available, and several of its findings have implications for handicapped limited Enlish Proficient (LEP) students and their teachers. First, Buriel suggests that teacher praise is contingent on good academic performance for Mexican-American children. If so, it seems likely that the LEP handicapped child would receive almost none, a condition which Laosa (1979, annotated previously) suggests may be associated with "academic alienation." Second, Buriel suggests that the teacher variables which show the strongest relationship to achievement outcomes differ between Mexican-American and Anglo children. This, as well as the finding about praise reported above, points out a need to train teachers to use interaction styles that are appropriate for Mexican-American children when working with LEP handicappped students.

Campos, F. (1983, April). The attitudes and expectations of student teachers and cooperating teachers toward students in predominantly Mexican-American schools: A qualitative perspective. Paper presented at the Annual Meeting of the American Education Research Association, Montreal, Canada. (ERIC Document Reproduction Service Document Number ED 234 026) 83 pp.

This paper reports the results of a qualitative study of student teachers' interactions with their cooperating (supervising) teachers during a semester of student teaching. Several data sources are used to provide a synthesized description of the experiences of student-cooperating teacher dyads in two schools with an enrollment which is at least 70% Mexican-American.

Campos begins by reviewing literature which suggests that teachers' attitudes and expectations can influence their behavior toward students. He also suggests that preparation of teachers to work in multicultural settings is a current priority in teacher training. Both of these issues necessitate the study of the student teaching process.

Subjects were five student teachers and five cooperating teachers. Subjects were part of a larger study of student teachers, and cooperating teachers had been selected on the basis of principal and university staff nominations of "effective" student teacher supervisors. The majority of student and cooperating teachers were Anglos, and had grown up in middle or higher SES neighborhoods. This contrasted with classroom students' low SES characteristics.

Data were obtained from five sources: (a) background questionnaires, which were used to obtain demographic data about subjects and their parents; (b) participant journals in which student teacher subjects were asked to record their reactions to student teaching; (c) three interviews in which subjects discussed their views about teaching and the roles and activities of the student teacher; (d) tape recordings of conferences between student and cooperating teachers revealing teachers' attitudes and expectations about students; and (e) classroom observations of subjects' teaching, which were carried out by trained observers. Cooperating teachers were observed 3 times; student teachers were observed 4 times. All data were collected during a fall (August to December) semester during which student teachers carried out their practice teaching.

Data were analyzed by constructing a background profile for each subject from background questionnaires and a synthesis paragraph from all other data sources. Paragraphs were constructed by listing all quotations from any source which concerned teacher attitudes and expectations for Mexican-American students and extracting major themes from these quotations. The paper presents profiles, synthesis paragraphs and sample quotations for each dyad.

Campos extracts four major themes from the five synthesis sets. First, the teacher-student teacher dyads do think that there are characteristics and needs which they feel are particular to their Mexican-American students. They most freqently mention lack of academic skills, the lack of a stable home life, and parent SES. However, the identification of these needs rarely

results in cooperative planning or action. Second, student teachers have difficulty relating to the perceived needs of their students, and their inability to do so causes problems for the cooperating teacher. Third, dyads appear to hold negative stereotypes about the Mexican-American community in which they teach. Parental lack of education, the lack of family structure and the lack of contact with social institutions (such as law enforcement) are mentioned. Finally, both student and cooperating teachers have low achievement expectations for their students. Campos notes that the generalizability of his conclusions are limited by missing data, the need to summarize much data into a synthesized form, and his small-sample, case-study approach.

Campos suggests several implications of the major themes which appear from his examination of the student teaching experience. First, he notes the need for training teachers to adapt to a multicultural setting. Second, he suggests that the way in which teachers perceive and react to students of varying SES levels and the way that the attitudes and expectations of teachers are perceived by minority students and communities should be the topics of further qualitative research.

While, as Campos notes, the generalizability of this study is probably limited, it is one which is interesting to read both for its personalized case study approach, and for the suggestions it makes. As Campos notes, there is no reason to think that members of the dyads are "malicious" toward minority group members, but it is clear from some statements that the student teachers (and some of their cooperating teachers) are overwhelmed by the difference between their own backgrounds and expectations and those of their students. It would be interesting for future research to take a similar qualitative approach using teachers who deal with handicapped minority students as subjects in order to ascertain what further blocks to the teacher-student relationship a handicapping condition might introduce.

Townsend, D. R., & Zamora, G. L. (1975). Differing interaction patterns in bilingual classrooms. Contemporary Education, 46(3), 196-200.

This study examined verbal and nonverbal classroom interaction patterns of bilingual teachers and aides. Two major questions were researched: (1) do interaction patterns of teachers and aides differ, and (2) do interaction patterns differ across teaching language?

Subjects were 56 early childhood teachers and assistant teachers, 53 of whom were Mexican-American. Children in classes observed were 3 and 4 years old, and over 90% were Spanish monolingual or Spanish dominant.

Data were gathered using portions of the System for Coding Interaction with Multiple Phases (SCIMP). Teacher verbal behaviors were coded using Phase II (Instructional Behaviors). Phase II is a 17-category system with a Flanders type format. A bilingual component, which allowed for the recording of the language of instruction used was added. Nonverbal behaviors were recorded using Phase III, (affective behavior) a 9-category system in which positive and negative instances of four nonverbal dimensions (touching,

nodding of head, use of eyes and smiling) and a void category which indicates an absence of nonverbal behavior are coded. Data were collected for each subject during four ten-minute lessons, two of which were in English and two of which were in Spanish. Verbal behavior was recorded every 3 seconds; non-verbal behavior was recorded every 5 seconds. No information on coder training or reliability is presented.

Data were analyzed using a repeated measures ANOVA. Significant differences were found between teachers' and aides' verbal and nonverbal behaviors. Teachers used more indirect verbal behaviors (such as praise or acceptance), while aides used more "teacher talk" (such as lecturing or telling). Teachers allowed more student response, and aides were more likely to change languages during presentations. Aides' nonverbal behaviors more frequently included negative head nods, negative use of eyes and "void" behaviors than did nonverbal behaviors of teachers; therefore, teachers showed a significantly higher combined percentage of positive nonverbal behavior than did aides.

Differences across teaching language were found for verbal behaviors only. During lessons taught in Spanish, greater percentages of questions were asked, more student responses occurred, more incidences of rejecting a student response occurred, and more incidences of teacher acceptance took place. Lessons given in English contained more instances of direction giving, student responses followed by teacher praise and uses of two or more consecutive reinforcing behaviors.

The authors conclude that differences in instructional behavior exist across both teacher levels and languages used. They cite two implications for educational practice: (a) the possibility of using teacher observations as a guide for inservice and preservice training, and (b) the need for future research to examine the causes and effects of the inconsistency of verbal behaviors across language of instruction noted here.

This paper presents less information about method and results than is common practice (for example, no tables of means or ANOVA results are included), and the validity of the findings reported is therefore difficult to judge. In addition, the classrooms observed here were for preschool children, and the possibility that different patterns of verbal and nonverbal interactions would be found in classrooms with children at other developmental levels must be considered. Nonetheless, the results reported here have implications for the limited English proficient (LEP) handicapped child, in that it would appear that more opportunites for student response and more student interactions with teachers occur during lessons taught in Spanish. It would seem desirable, however, that students (especially LEP and LEP handicapped students) be encouraged to interact with their teachers in English in order to develop language proficiency. If other studies also suggest that opportunites for response are more limited during instruction given in English, there seems to be a need for bilingual teachers to change their English instruction teaching style in a way that encourages greater student response. The authors' suggestion that future observations be combined with preservice and inservce training of teachers is therefore a good one.

McClure, E. (1978). Teacher-pupil questions and responses and the Mexican-American child. The Bilingual Review/La Revista Bilingue, 5, 40-43.

This study examined differences in Mexican-American and Anglo pupils' responses in kindergarten and first grade classroom settings. Observations were made over a two-year period of four teachers (an Anglo kindergarten teacher, an Anglo first-grade teacher, an Anglo bilingual teacher and a Mexican-American bilingual teacher's aide) and 70 pupils (13 Mexican-American kindergarteners, 23 Anglo kindergarteners, 12 Mexican-American first-graders, and 22 Anglo first-graders). One group of students was observed over two years in both kindergarten and first grade, although it is not clear which pupils were studied longitudinally or which pupils were associated with what teachers.

Information on teacher and pupil behavior was obtained from three sources: tape recordings, general observations, and tabulations of 10 specific classroom behaviors. Procedures for and use of data from tape recordings and specific behavior tabulations are not discussed. No information is given concerning observer reliability or about which, if any, statistics were used in drawing the conclusions which are reported.

The author reports that overall, the frequency of questions and comments to teachers from Mexican-American children in the regular classroom does not differ from the frequency of questions and comments made by Anglo children. However, she notes large individual differences in the number of questions asked by children within both groups, and also notes that Mexican-American children were markedly more reticent than Anglo children to ask questions of strangers (such as a fireman) who visited the classroom. More questions were asked by both groups in the bilingual classroom than in the regular classroom. The bilingual classroom is described as smaller and less formal than the regular classroom.

Teacher responses were made mainly to questions rather than to comments. A higher frequency of teacher response to comments was noted for Mexican-American children. The author also notes that failure to respond most often occurred when children failed to use appropriate means of initiating encounters such as hand raising.

The frequency of teacher initiated questions did not differ across the two groups. In kindergarten classrooms, Mexican-American children responded less frequently to teacher questions than did Anglo children. This difference was not observed for first grade classrooms.

The author concludes that unlike Indian and Mexican-American children discussed in previous literature, these pupils were interested participants in the classroom. She suggests that some of the passivity observed in culturally different students is the result of what happens to culturally different children in the school itself, and not the result of home-based cultural differences.

This study was conducted in the context of a descriptive, anthropological framework, and it is difficult to assess the generalizability of findings due

to the small number of teachers observed, the sketchy reporting of experimental methodology and the lack of description of statistical procedures. Nonetheless, the study is interesting in that it suggests situations in which greater participation from children was noted. Based on this study's conclusions, the most favorable instructional situation for the Mexican-American child, and perhaps for the LEP handicapped child, is smaller and more informal than that offered in the traditional classroom, and includes an instructor who is familiar to the children being taught.

Tobias, S., Zibrin, M., & Menell, C. (1982, August). Special education referrals: Failure to replicate student-teacher ethnicity interaction. Paper presented at the Annual Meeting of the American Psychological Association, Washington, DC. (ERIC Document Reproduction Service No. ED 224 221) 3 pp. Also reported in: Journal of Educational Psychology, 1983, 75, 705-707.

This research examined the effects of student gender and ethnicity and teacher gender, ethnicity and teaching level on special education referrals. Previous research by the same authors had suggested that secondary teachers were more likely to refer students from ethnic groups other than their own for special education services and that Hispanic teachers were least likely to recommend special education. The present study attempted to replicate this finding for different teaching levels.

Three-hundred and twenty students in graduate level education courses, all of whom had previous teaching experience, were asked to evaluate a fictional case history which described a 10-year-old fifth-grade student. The student was presented as two years behind in academic achievement and having behavioral difficulties. Case histories were varied so that the student was described as either male or female and as either Black, Hispanic, White or of unspecified ethnic background. Teachers responded to 11 Likert items which assessed how well they felt the student could be maintained in a regular classroom, whether they felt special services were needed and how severe they felt the student's problems to be.

Initial data analyses focused on the reliability of the rating instrument (.77 after two items were dropped) and the comparability of responses of male and female teachers. Since no differences were found, these data were pooled. A 4 (student ethnicity) x 2 (student gender) x 3 (teacher ethnicity) x 3 (teaching level) analysis of variance revealed significant main effects for teacher ethnicity and teaching level, and a significant teacher ethnicity-student gender interaction. Follow-up examination showed that White teachers recommended special education more frequently than Black or Hispanic teachers. Special education teachers recommended special education placement most frequently; secondary teachers recommended placement least frequently. Finally, Black and White teachers recommended male students for special education more often than they recommended females; Hispanic teachers recommended females more frequently than males.

The authors conclude that teacher ethnicity-related results of their previous study were not replicated. They suggest that their previous results m

may have been influenced by the fact that the sample was composed mainly of secondary school teachers, although no reason why a student-teacher ethnicity interaction for special education referral for this group should exist is offered. The authors also note that the more frequent referral of minority group children which actually occurs in schools was not found here, suggesting that variables other than those investigated in this study are involved in the overrepresentation of minority children in special education.

3. Relationships Between Handicapping Conditions and Student/Teacher Interactions

Annotations in this section examine teachers' interactions with their handicapped students. Available research focuses on three areas: (a) interactions with learning disabled (LD) students, (b) interactions with "mildly handicapped" (learning disabled [LD] and behaviorally disordered [BD]) students, and (c) interactions with mentally retarded (MR) students. Annotations are arranged in this order.

The majority of research located for review concerns teacher interactions with LD students in the regular classroom. While results are not consistent across studies for all areas of interaction, most report that LD children behave less appropriately than their nonhandicapped peers in the regular classroom and that teachers interact differently with LD and nonhandicapped students. Differences include such things as spending more time in work-related contact with LD students, responding less frequently to comments made by LD students and initiating more behavior management related dialogues with LD students (Bryan & Wheeler, 1972; Bryan, 1974; Dorval, McKinney & Feagans, 1982). An additional study of LD students (Chapman, Larsen & Parker, 1979) finds that differences in behavior and interaction can be found even previous to special education referral.

The next three annotations in this section (Moore & Simpson, 1983; Thompson, White & Morgan, 1982; and Thompson, Jewett & Vitale, 1983) concern teacher interactions with behavior disordered (BD) as well as LD students. Results are contradictory, in that one study (Moore & Simpson, 1983) suggests that teacher interactions with the two groups are similar, while a second (Thompson, White & Morgan, 1982) suggests they are not. In addition, in contrast to studies of LD students only, these studies suggest areas in which interactions for regular and special education students are similar.

A final annotation (Kurtz, Harrison, Neisworth & Jones, 1977) concerns nonverbal interactions with mentally retarded (MR) students. The study presented differs from others in that it uses a laboratory setting and preschool children; however, it was the only recent study of interaction located which concerns MR, rather than LD or BD students. Its results also differ from other studies in that student teachers were found to be more positive toward retarded students than they were to nonlabeled students.

Overall, these studies suggest that the presence of a handicapping condition and label does influence teacher-pupil interaction. However, the way in which specific labels (LD, BD, or MR), influence interactions and what types of interactions are influenced in what contexts are as yet far from clear for any group of students.

Bryan, T. S., & Wheeler, R. (1972). Perception of learning disabled children: The eye of the observer. Journal of Learning Disabilities, 5, 484-488.

The authors state that most studies of the classroom behavior of handicapped children have used checklists which are administered to teachers. In contrast, this study uses classroom observation to examine behavioral differences between learning disabled and nonhandicapped children. The study's purposes are to: (a) determine what behaviors may be critical to teacher judgments about children, and (b) identify behaviors which should be more closely analyzed.

Twenty boys in five kindergarten and first-grade classrooms (two LD and two non-handicapped in each classroom) were selected by teacher nomination. Subjects were observed for about 55 minutes each during one school day. Behaviors were coded at 10-second intervals during five-minute observation periods, and the student being observed was changed at the end of each five-minute interval so that all subjects were observed during all types of instruction. Four types of behavior categories were coded: task-oriented behavior, non-task-oriented behavior, interactions, and waiting. The interactions category included verbal or nonverbal interactions with either the teacher or other students.

Reliability of coding, which was assessed by using a second coder on "two occasions", averaged 81%. Observation data were transformed to proportions and analyzed using a series of t-tests.

Results showed that LD subjects spent significantly less time in task-oriented behaviors than comparisons (57% time on task versus 70%). The difference for non-task-oriented time was also significant, with LD subjects being off task more frequently. No differences were found for the interaction or waiting categories. Some categories of behavior at which the authors had hoped to look (such as teacher reinforcement or evaluative statements) could not be analyzed due to a lack of data. The authors suggest that the teachers' knowledge of subject's identities may have changed the use of some behaviors.

Overall, the authors conclude that their results suggest differences in the classroom behaviors of LD and nonhandicapped children. In keeping with their purpose of identifying further behaviors to be studied, they suggest that the task-oriented and non-task-oriented categories should be broken down into more specific behaviors for individual content areas such as reading. They note that children in their LD sample were adept at "looking busy" while off task (for example, one subject kept an open book in front of him while staring out the window), and suggest that intervention strategies might focus on the conditions under which learning occurs to try to minimize this tendency. Finally, they find nothing in their results, with the expection of off-task behavior, which teachers might use to differentiate LD from non-handicapped students.

As a beginning study, this research is flawed by problems which later studies attempted to work out (a coding system which did not allow for testing of all hypotheses, a small sample size, a procedure in which teachers knew who was being observed, etc.) Nonetheless, its results are consistent with those of studies which have taken a far more complex approach in that differences in the classroom behavior patterns of LD and nonhandicapped students are reported. These different patterns may be related to differences in teacher interaction patterns reported by other studies.

Bryan, T. S. (1974). An observational analysis of classroom behaviors of children with learning disabilities. Journal of Learning Disabilities, 7, 26-34.

This study had several major purposes. The first is the replication of a previous study by the same author (Bryan and Wheeler, 1972; annotated elsewhere) which examined what learning disabled (LD) children do in the classroom. In addition, the present study was intended to compare learning disabled students' behaviors to those of their nonhandicapped peers, to investigate whether the quality of LD children's task-oriented behavior varied among tasks, to compare LD children's regular classroom behavior to their behavior during sessions with an LD specialist, to examine patterns of reinforcement in the classroom, and to compare teachers' interactions with LD children to their interactions with nonhandicapped children.

Subjects were 10 third-grade boys (5 LD and 5 nonhandicappped). Nonhandicapped comparisons were matched to LD subjects on the bases of age, race and sex, and were in LD subjects' regular classrooms. Comparisons were described by their teachers as average achievers with no known academic or social problems.

Subjects were observed for 5 school days over a period of 5 months. Days of the week for observation were varied, and the subject observed (LD or comparison) was changed at 5-minute intervals to provide observations of all subjects in all classroom activities. Behaviors were recorded every 10 seconds. LD subjects were observed in their regular classroom and in their resource room; comparisons were observed in the regular classroom only.

Reliability was established by using a second observer during two days of observations. An average agreement of 92% was obtained.

Observation coding included four major categories: task-oriented behavior, non-task-oriented behavior, social interactions (with either the teacher or a peer) and waiting. Information coded included both what the child should have been doing and what s/he was actually observed doing, and also included other participants in activites (for example, social interactions were coded as being either with a teacher or with a peer, and the other's responses were coded). Data were converted to percentages by summing the number of intervals for which a behavior was recorded and dividing by the total number of intervals.

Analysis of variance was used to examine differences in attending behaviors across situations and subject areas for the two groups. LD children spent significantly less time in task-oriented behavior and significantly more time in non-task-oriented behavior than nonhandicapped children. Analyses across subject areas showed that LD children were on task less frequently than comparison children for arithmetic, language, and art-music, and when listening to teacher instruction. Differences approached significance for reading, and were not significant for library, social studies, spelling, writing and miscellaneous tasks such as passing out papers.

Results of social interaction analyses showed that LD and comparison students spent about the same amount of time interacting with teachers and

with peers. There were, however, differences in interaction patterns. Teachers responded to verbal initiations of comparisons significantly more frequently than they responded to LD children. Half of the teacher time spent interacting with LD students centered on helping with work; for average achievers, helping with work occupied one quarter of the time spent. LD and comparison children received equal amounts of positive reinforcement. However, LD children received more negative reinforcement. Since no examples of this category are provided, it is not possible to tell if what was coded here was actually negative reinforcement according to a strict behavioral definition, or was in fact statements that might better be called punishment or criticism.

Interaction patterns with peers also differed for LD and comparison subjects. LD subjects were more likely to be ignored by peers.

T-test comparisons of LD subjects' behavior in regular and resource classrooms also revealed significant differences. LD subjects spent more time on task, less time off task, more time attending during reading, more time attending during language and more time attending to the teacher with the learning disability specialist. In addition, the LD specialist used significantly more positive reinforcement and significantly less negative reinforcement than did classroom teachers. Peer interactions did not differ for the two settings.

Bryan notes that her sample of children spent more time waiting than they did in several academic areas (e.g., writing or science). She suggests that teacher training programs consider ways to help teachers learn to better organize classroom time.

In discussing her main findings, Bryan concludes that LD and average achieving children's time use in the classroom differs. LD children are less likely to be attending (or at least appearing to do so). She suggests that intervention strategies with LD populations should stress altering attention to work and making the LD child more self-directed. She further notes that LD children's interactions with teachers and peers differ from those of average achievers, and seem to be more negative. Overall, she suggests that "learning disabled children learn how to look reasonably busy, not to be disruptive, to not get into trouble, to not work in school, and to have unusual relationships with teachers and peers" (p.33). She suggests that further study is needed to identify environmental variables which may contribute to this pattern of learning for the LD child.

While Bryan's description of the LD child's "hidden curriculum" does not seem quite consistent with her data (LD children did receive more negative reinforcement, for example), it suggests that the LD child may learn a set of behaviors to "get by" in school which are not conducive to learning. It would be interesting to put together a similar picture of the classroom experiences and learning of the LEP handicapped child.

Dorval, B., McKinney, J. K., & Feagans, L. (1982). Teacher interaction with learning-disabled children and average achievers. Journal of Pediatric Psychology, 7(3), 317-330.

Previous research (e.g., Bryan, 1974; annotated elsewhere) has suggested that learning disabled (LD) students display a characteristic pattern of classroom behavior which is associated with failure to progress academically. The purpose of this study was, therefore, to document the effect of this behavior pattern on teacher interaction of LD and average achievers during mainstream instructional activities. Specifically, the study considers patterns of contact initiation for both groups.

Subjects were 12 LD children in kindergarten through second grade. Eleven subjects were males, one was a female, and all were Anglo. Each subject was matched to a nonhandicapped comparison child in the same classroom. WISC-R IQ scores and parents' education levels did not significantly differ for subjects and comparison children; math and reading scores on the Peabody Individual Achievement Test (PIAT) were significantly lower for the LD group. Each pair of students was enrolled in a different mainstream class so that a total of 12 classrooms were observed.

Dialogues between teachers and LD students or teachers and comparison students were recorded by an observer during language arts and math instruction. Each pair of students was observed for approximately 2 hours, and observations included context notes as well as dialogue. Reliability of recording was assessed by using a second observer in three classrooms and averaged 88%.

Recorded material was transcribed and divided into individual dialogues by coders. Average agreement for these divisions was 94%. Dialogues were coded as either teacher or child-initiated, and as concerning instruction, behavior management or social overture. Child-initiated dialogues were further coded as either situationally appropriate or inappropriate. Average reliabilty for coding was 93%.

Data were analyzed using a MANOVA with repeated measures. Results showed that teachers initiated more dialogues with LD children than with comparison children. These dialogues most frequently concerned behavior management, and further analysis within the behavior management category showed that they concerned rule infraction more frequently than routine management or inattentiveness. There was no difference in rate of initiation of dialogues for the two student groups. However, LD children more frequently initiated dialogues that were judged to be situationally inappropriate.

Analysis of the settings of teacher-initiated dialogues showed that initiations to LD students took place most frequently in whole class (as opposed to small group) settings, and most often occurred when the teacher was monitoring or checking seatwork.

Behavioral observation and rating data on LD children (which were obtained from a larger longitudinal study) showed that LD children in this sample displayed less on-task behavior than classmates and interacted with teachers more often. They were rated by teachers as less task oriented, less

independent and less curious, and as more distractible, more dependent and more apathetic then comparison children.

The authors conclude that, in keeping with previous studies, their data show differences between LD and average childrens' interactions with their teachers. They note that while differences in instructional initiations did not achieve statistical significance, they were more frequent for LD children, suggesting that these children are more demanding both instructionally and behaviorally. They suggest that intervention strategies used with the LD child should be aimed at both of these aspects of classroom behavior.

The authors note two major limitations of their study. First, they suggest that since learning-disabled is a fairly broad term, different results might be obtained if small subgroups of this general category were observed. Second, they suggest that simply observing initiations does not provide a full picture of the flow of teacher-student interaction, and suggest that further research might document this sequence more fully.

In addition to the limitations noted above, this study is also limited by its small sample size. Since the sample covers several grade levels, developmental differences may have been blurred, and the inclusion of 11 males and only one female may have given a picture of interaction which is more typical of LD males than of LD children in general. Likewise, the observation of only Anglo children limits the generalizability of these results.

Chapman, R. B., Larsen, S. C., & Parker, R. M. (1979). Interactions of first-grade teachers with learning disordered children. Journal of Learning Disabilities, 12, 225-230.

The authors suggest that while much research has focused on teacher interactions with high and low achieving students, research which has considered learning disabled children is limited. This study, therefore, focuses on differences between teacher interactions with learning disordered (special education referred) children and their low, medium and high achieving peers. Five areas are of interest: teacher-afforded interactions, student-initiated interactions, opportunities tc respond, level of teacher questions, and teacher feedback.

Subjects were four first-grade teachers and the 110 students in their classes. The majority of students (83%) were Anglo; ethnicity information about teachers is not provided. Classes were observed for 7 hours per week over a 13-week period using the Brophy-Good Teacher Child Dyadic Interaction System. The system allows for coding of interaction setting (general, reading group or work recitation), interaction type (response opportunity, recitation, procedural, work-related and behavioral contacts), appropriateness of the child's response (as determined by teacher reaction) and specific interaction category (of which about 150 are possible). Coder reliability for the study averaged 83.4%.

A second stage of data collection involved interviewing students' second-grade teachers. Ratings of academic ability, grades for first and second grade, achievement test scores and referrals to special education (if any) were obtained for each child. This information was used to divide children into four groups: learning disordered (poor achievement plus special education referral), low achievers, medium achievers and high achievers. Approximately 15% of the sample fell into the learning disordered group.

Data were analyzed using repeated measures ANOVAs which included student classification, teacher and week of recording as independent variables. The latter two variables were included to control for teacher differences and changes over time. Results for them are not presented.

Results showed that learning disordered students received more teacher-afforded contacts than did other groups. These contacts included both praise and criticism categories, and the difference in amount of contact was consistent across settings. Learning disordered students were also found to initiate more contacts across settings than other groups. No significant differences were found for opportunities to respond or level of teacher questions.

Teacher feedback results differed by feedback type. Learning disordered students received more praise and more criticism in the general classroom and work recitation settings than did other groups. Medium and high achievers received more teacher affirmations of right answers than low or learning disordered students in their reading groups, but also received no feedback more frequently than did other groups in this setting. Learning disordered and low achieving children received more process feedback (i.e., feedback that explains why a response was wrong or how the correct response should have been reached) than other groups. Learning disordered children also received more product feedback (i.e., a simple right answer) following teacher-afforded work contacts, and received more sustaining feedback (i.e., were provided with an additional opportunity to respond) than did other groups in a work-recitation setting.

The authors note that learning disordered children received more praise, criticism and feedback when teachers initiated interaction, and more praise and criticism following contacts they initiated. They conclude that the learning disordered children were eliciting more responses from teachers overall, and suggest that this may lead to teacher frustration in dealing with these children. They suggest that along with continuing to document patterns of teacher-child interaction, future research should consider strategies which would help the regular classroom teacher meet the needs of special children.

This study is interesting in that it suggests that differences in the classroom interaction of handicapped children may actually precede the assignment of a handicapped label. It is also interesting in that it finds that the setting of interaction within the classroom is a variable in determining interaction patterns. Further research might consider differences previous to labeling for the LEP handicapped child, and might also examine whether different settings (especially settings with differing language characteristics) influence teacher interaction with this group.

Moore, S. R., & Simpson, R. L. (1983). Teacher-pupil and peer verbal interactions of learning disabled, behavior disordered and nonhandicapped students. Learning Disability Quarterly, 6, 273-282.

This study was conducted to expand previous interaction literature by comparing two types of mildly handicapped and nonhandicapped childrens' interaction patterns in a classroom setting. The frequency and type of teacher-pupil and peer verbal interactions of learning disabled (LD) and behavior disordered (BD) children in self-contained classrooms and of nonhandicapped pupils in regular classrooms were compared using behavior observations.

Subjects were 45 randomly selected fourth-, fifth- and sixth-grade students and included 15 nonhandicapped, 15 LD and 15 BD children. Subjects' classroom peers, teachers and aides were also observed.

A direct behavior observation system was used to monitor classroom interactions at 15 second intervals. Coded data included (a) the status of the person emitting the behavior (i.e., subject, teacher, aide or peer); (b) the category of behavior from among 14 predefined behavior categories which included neutral, praise, assist, instruct, answer, question, sympathy, disapprove, disrupt, command, complain, defensive, refuse, threaten, and no response; and (c) the sequence of the interaction. Two observers collected data during the school day over a two-month period such that each subject's interactions were recorded for 6 seven-minute periods. Interrater reliability was estimated by percent agreement, and averaged 95.5%. Special education students (LD and BD) were observed only in self-contained classrooms, and not in mainstream classrooms.

For purposes of data analysis, the 14 behavior categories were combined into four more general categories: (a) positive behaviors, (b) negative behaviors, (c) neutral behaviors, and (d) no response. Data were analyzed using 3 (type of student: LD, BD, or nonhandicapped) x 3 (status of person emitting behavior; teacher, peer, or aide) analyses of variance with the frequencies of positive, negative and neutral behaviors used as dependent variables. Statements to and from students were analyzed separately so that a total of 6 ANOVAs were planned; however, the low frequency of positive statements from students to others prevented complete analysis of this data set.

Results indicated that the LD and BD students did not significantly differ from each other in number of negative or neutral statements emitted. However, BD and LD students engaged in more negative verbalizations than did regular students when talking to teachers. The majority of these negative statements fell into the disruptive category.

Positive verbalizations from students, while infrequent, did not appear to distinguish between special and regular education students. Similarly, positive verbalizations from all three teacher groups to students were found to be infrequent but did not significantly differ among groups.

Teachers of BD students were more likely than LD and regular teachers to emit neutral verbalizations; no other differences for this category were found. Interaction results for peers for all three categories were found to be similar to those for teachers, and suggested that the peer interactions of LD and BD students are more negative than those of regular education students.

The authors suggest that the results of the present study have several implications for educational practice. First, because of the similarity of the BD and LD groups, they suggest that a noncategorical approach to special education teacher training can be used for such topics as behavior management. More importantly, they note the lack of positive interactions in all classrooms observed, and suggest that training which will help teachers increase their positive verbalizations is needed.

Thompson, R. H., White, K. R., & Morgan, D. P. (1982). Teacher-student interaction patterns in classrooms with mainstreamed mildly handicapped students. American Education Research Journal, 19(2), 220-236.

The purpose of this study is the comparison of interaction patterns of regular elementary classroom teachers with four student groups: (a) nonhandicapped high achievers, (b) nonhandicapped low achievers, (c) learning disabled (LD), and (d) behaviorally handicapped (BH). The authors note that results of previous research about teacher-student interactions with handicapped students have been contradictory. Some studies have found that teachers interact more frequently and more negatively with handicapped than with nonhandicapped children, while others have found that interaction rates are equal for the two groups and that handicapped children receive more praise than their nonhandicapped peers.

Subjects for this study were 12 regular education third-grade teachers who taught in a traditional self-contained classroom and whose students included 3 or 4 mainstreamed children labelled either LD or BH using Utah state guidelines. Teachers were asked to classify each child in their class as in the "top 25%," "middle 50%," or "bottom 25%" in terms of general academic achievement using standardized test scores. After labeled children were removed from teachers' achievement rating lists, one high-achieving and one low-achieving match for each handicapped child was selected at random. Although they were from the same classroom, comparison children do not appear to have been matched on the basis of gender, SES or race/ethnicity. A total of 129 students were selected for observation: 43 nonhandicapped high achievers, 43 nonhandicappped low achievers, 28 LD and 15 BH.

Four-hundred and eighty hours of classroom observation data were collected over an 8-week period using a modified version of the Brophy-Good Teacher-Child Dyadic Interaction System. The instrument was modified so that child-initiated response opportunities could be coded. Fifty-one variables were coded and combined into 16 dependent measures which concerned 6 general areas: teacher-initiated interactions, student-initiated interactions, type of teacher feedback to students (academic, behavioral or procedural), quality of teacher feedback to students (criticism, praise or neutral), types of response opportunites provided by the teacher and types of questions asked by the teacher. Coder reliability averaged 85% agreement.

A preliminary data analysis examined differences between interactions of LD and BH students to see whether the two groups might be combined into one "mildy handicapped" group. The two groups differed on a composite measure of teacher-student interaction (no further detail about this difference is provided) and were therefore left separate for other analyses. Data were analyzed using a two way (groups by classes) MANOVA followed by univariate ANOVAS and Newman-Keuls tests to determine sources of significant differences.

Significant differences were found for 8 of the 16 dependent measures: (a) teacher initiations were more frequent to BH students than to other groups; (b) the proportion of procedural teacher initiations was higher for BH than for high achieving students; (c) student initiations were most frequent for BH students; (d) teacher feedback was most frequent for BH students; (e) and (f) the proportion of behavioral teacher feedback, and the proportion of teacher feedback which was sustaining (interaction continuing) as opposed to terminal was highest for BH students; (g) teacher feedback was more likely to be praise for high achieving than for BH students; and (h) quality of teacher questions differed among groups, with the least cognitively complex questions being asked of BH students, and the most complex questions being asked of LD students. Results concerning the significance of this final difference are not provided.

The authors compare their results to the findings of previous studies and note two major differences. Previously, the highest proportion of sustaining teacher feedback was found to go to high achieving students; here, this feedback was given to BH students. Likewise, other studies have suggested that cognitively complex (process) questions are generally asked of high achievers; here, they were most frequently asked of LD students. The authors note that their findings may be limited by their use of one possible definition of student-teacher interaction (as defined by the Brophy-Good Teacher-Child Dyadic Interaction System variables coded) and by their use of a sample of self-contained classrooms at one grade level (grade 3). They also note that their use of a multivariate approach, as opposed to the univariate approach used by many previous studies, may have decreased the error rate in the findings presented here. Overall, they state that their definition of student-teacher interaction, the sample selected, and the more rigorous statistical approach used in the present study may have influenced results.

In summarizing their results, the authors conclude that teacher-student interaction varies among the four groups considered, but that there is no consistent evidence which suggests that there is a better educational environment for any one group. They note that their results show that a large proportion of teacher time is spent in non-academic interaction and that praise is infrequently used by teachers. They suggest that changing these interaction patterns could result in a higher quality educational environment for all students.

The contradictions in interaction research and the factors which may contribute to them explicated by these authors point out how complex the area of interaction research really is. The authors suggest that interactions may vary at different grade levels, and within classrooms, and other research has suggested that variables not considered in this study (such as child and

teacher gender, ethnicity or SES) may also influence interactions. All in all, the inconsistency of interaction research results for handicapped children suggests that it will be impossible to accurately generalize previous findings to the limited English proficient (LEP) handicapped child. Rather, an accurate account of LEP handicapped childrens' classroom experiences will need to come from empirical studies which focus on them.

Addendum

Several corrections to the results presented above are contained in the report of a follow-up study conducted under the direction of the same first author (Thompson, Jewett & Vitale, 1983; annotated elsewhere). These are:

1. Percentages for procedural and behavioral teacher initiations (as reported in Table II) were reversed. Therefore, there was no significant difference in procedural teacher initiations among groups. There was, however, a significant difference in behavioral teacher initiations. Behaviorally handicapped (BH) students received significantly more behavioral teacher initiations than other groups did while nonhandicapped high achieving students received signficantly fewer behavioral teacher initiations than other groups.

2. A variable for which no signficant differences were reported is described as the proportion of student initiations which were procedural as opposed to academic. These are actually the proportion of student initiations which were academic as opposed to procedural. There is still no difference among groups.

3. Results of post hoc analyses of group differences for type of questions asked by the teacher were left out. These analyses showed that BH students received questions that were of significantly lower quality than those asked of other groups, while LD students received questions that were of significantly higher quality than those asked of other groups.

The interested reader is advised to obtain the corrected table of results contained in ERIC Document Reproduction Service No. ED 232 364.

Thompson, R. H., Jewett, J., & Vitale, P. (1983, April). Teacher-student interaction patterns within the learning environment of mainstreamed classrooms. Paper presented at the Annual Meeting of the American Education Research Association, Montreal, Canada. (ERIC Document Reproduction Service No. ED 232 364) 37 pp.

This study is a replication of a previous study by the same first author (Thompson, White & Morgan, 1982; annotated elsewhere). The previous study was carried out in Utah, while the present study was carried out in South Dakota and Iowa (SD/I). The authors suggest that replication of the Utah study in a different location will add generalizability to its findings.

The purpose of both studies was the comparison of regular classroom teachers' interactions with mildly handicapped, nonhandicapped low-achieving and nonhandicapped high-achieving students. Six general areas were of

interest: teacher-initiated interactions, student-initiated interactions, type of teacher feedback, quality of teacher feedback, response opportunities and type of questions asked of each group (process or product).

Subjects for the SD/I study were 12 third-grade and 9 fourth-grade teachers and 177 students from their classes. All teachers taught in traditional self-contained classrooms which included between 2 and 4 mainstreamed handicapped students who had been identified using state guidelines. Teachers were asked to rank each student in their class on a 5-point general achievement scale (with 5 points representing the highest achievers) using their own impressions and results of standardized testing. Rankings were used to select one high-achieving (ranking of 5) and one low-achieving (ranking of 1) match for each mainstreamed handicapped student. A total of 58 high achievers, 58 low achievers and 61 handicapped students were identified and observed. Unlike the Utah study, handicapped students were not divided into learning disabled (LD) and behaviorally handicapped (BH) categories.

Each classroom was observed one day a week for 5 weeks, and a total of 420 hours of data were collected. Observations used the Brophy-Good Teacher-Child Dyadic Interaction System, which was modified to include a section for student-initiated questions and comments. Coder reliability averaged at least 80% for all coding sessions.

Sixteen measures of student-teacher interaction were computed and analyzed using a multivariate ANOVA. Classes were used as a blocking variable to ensure that differences in interactions across groups were not simply the result of different teaching styles. Since MANOVA results were signficant, follow-up ANOVAS were performed.

SD/I results showed that handicapped and low-achieving students received significantly more teacher-initiated interactions than did high-achieving students. In the Utah study, behaviorally handicapped students received the most teacher initiations. The authors point out that results of both studies suggest that learning disordered students receive more teacher-initiated interactions than their nonhandicapped peers.

Differences were also found in the type of teacher-initiated interaction each group received. Handicapped and low-achieving students received significantly fewer academic initiations and significantly more behavioral initiations than did high achievers. These patterns are consistent with Utah results.

No signficant differences in frequency or type of student-initiated interactions were found for SD/I subjects. This result differs from the Utah study, in that behaviorally handicapped students in that sample initiated nearly twice as many interactions as high achievers. The authors suggest that the use of one rather than two handicapped groups may have obscured this difference.

SD/I handicapped and low-achieving students were found to receive significantly more teacher feedback than did high achievers. The proportions of academic and procedural feedback received by the three groups was approximately equal; however, handicapped and low achieving students received

approximately equal; however, handicapped and low achieving students received more behavioral feedback than did high achievers. In the Utah study, the greatest amount of total feedback and of behavioral feedback went to BH students. No differences were found for sustaining (i.e., interaction continuing) as opposed to terminal (i.e., interaction ending) feedback across groups. Again, these results differ from the Utah study, in which BH students received significantly more sustaining feedback.

One difference was also found for quality of teacher feedback (praise, criticism or neutral). Handicapped and low-achieving students received lower quality (more critical) academic feedback than did high achievers; no differences were found for procedural or behavioral feedback. As above, results were similar to the Utah study except that differences were found for BH rather than all handicapped students. The authors also note that a large proportion of all feedback in both studies was of a critical nature, even though past research has suggested that a positive environment is more conducive to learning.

Further analyses examined whether teachers provided more response opportunities to students who were volunteering (raising their hands) or to students who were not volunteering. The percentage of volunteers called on from each group differed significantly for the SD/I study but not for the Utah study. For the SD/I replication, 59% of the high achievers, 38% of the low achievers and 31% of the handicapped students called upon were volunteers, suggesting that teachers called upon students from the latter two groups even when they did not volunteer. Quality of teacher questions (process, product, choice or self-referent) did not differ across groups for the SD/I study, although question quality had been signficantly lower for BH students in the Utah study. The authors note that the quality of questions in both samples was generally low, with only a few process questions being used by any teacher with any group. They comment that this may not be as negative as it first appears, as previous research has suggested that it may be preferable to proceed in small steps for some children.

Overall, the authors conclude that both the Utah and SD/I studies contain "substantial" evidence that teacher-student interaction varies among the student groups observed. However, there does not seem to be any one group which receives consistently higher quality interactions. They also note that much of the teacher interaction recorded was of a negative nature, suggesting a need for teachers to be taught better classroom and behavior management strategies. Finally, the authors find that across the two studies, only about 60% of teacher time was used for academic interaction with students. They suggest that this time should be increased.

This replication of results across geographical areas is interesting in that it suggests that teacher-student interactions in the two locales were fairly similar, especially when the difference in the definition of handicapped groups is considered. However, it is possible that this consistency across locations would not be found for LEP handicapped children. It seems possible that classroom interactions in areas with a large proportion of Hispanics (such as areas along the Mexican border) might differ from interactions in urban areas or areas with a smaller Hispanic population proportion. Future researchers might wish to consider the effect of location-related variables on the classroom experiences of the LEP handicapped

location-related variables on the classroom experiences of the LEP handicapped child.

Kurtz, P. D., Harrison, M., Neisworth, J. T., & Jones, R. T. (1977). Influence of "mentally retarded" label on teachers' nonverbal behavior toward preschool children. American Journal of Mental Deficiency, 82, 204-206.

The authors note that, although the effects of handicapped labels on teacher expectations and attitudes have been widely considered, research results about them are inconsistent. Recent results have suggested that the interaction of the label with a handicappped child's behavior, rather than the label itself, may produce changes in the teacher's perceptions of a child. The purpose of the present study was, therefore, to assess the effect of a mentally retarded label alone on the nonverbal behavior of student teachers.

Twelve undergraduate education majors (6 males and 6 females) were asked to read a story to 12 normally developing preschool children (7 males and 5 females) randomly selected from a day care center. Student teachers were told that the purpose of the study was to assess children's reactions to the story, and were given a description of the child that either mentioned or did not mention mental retardation. Student teachers were videotaped while playing with the child and while reading the story. Codings of nonverbal behaviors were made from videotapes at 5-second intervals, and reliability for three coders ranged between 75% and 100%.

T-test results showed that student teachers more frequently leaned toward children whom they believed to be retarded. The authors interpret this finding in terms of "immediacy" or expression of positive attitude, and suggest that student teachers were more immediate (and positive) to the "retarded" children. They suggest that future research should consider the effects of labels on areas other than nonverbal communication in a natural classroom setting.

While the generalizability of this study is limited by its laboratory setting, small size and use of preschool students, it is interesting in that it considers teacher interaction for a mentally retarded, rather than a learning disabled population. It suggests, along with other evidence reviewed here, that the limited English proficient (LEP) handicapped child's interactions with teachers may be influenced by the label assigned to his/her language difference and handicap as well as by the language difference and handicap themselves.

4. Relationships Between Handicapping Conditions and Teacher Expectations

This final section focuses on studies of teachers' expectations for their handicapped students. A literature review by Larsen (1975) suggests the process by which a handicapping condition and its accompanying label may influence teacher perceptions of a student. Two annotations (Hiebert, Wong & Hunter, 1982; and Boersma & Chapman, 1982) present empirical studies which document that teachers and parents expect learning disabled children to achieve less than their nonlabeled peers. The section concludes with the only study found which simultaneously considers effects of ethnicity and handicapping condition on teacher expectations (Aloia, Maxwell & Aloia, 1981). Results of this important study suggest that both variables enter into teachers' judgments about children.

Larsen, S. (1975). The influence of teacher expectations on the school performance of handicapped children. Focus on Exceptional Children, 8 (6), 1-14.

The purpose of this literature review and position paper is to describe the basic components of teacher expectations and self-fulfilling prophecies, and to explain how these relate to (a) school performance, (b) student characteristics, and (c) special education.

Larsen defines teacher expectations as inferences about present and future academic achievement and classroom behaviors. While teacher expectations are impossible to avoid, they do not automatically lead to a self-fulfilling prophecy (SFP). Expectations can become a SFP when they are inaccurate and rigid, so that the teacher's expectations, rather than observed student behavior, become a cause of teacher behavior. SFP is a mechanism in which an initial error in expectations causes the very condition falsely believed in to exist, i.e., as the teacher consistently communicates his/her expectations to a child, the child begins to conform to them.

According to Larsen, the conceptualization of SFP began in the laboratory with the description of "experimenter bias effects." In 1968, research by Rosenthal and Jacobson suggested that favorable teacher expectations were responsible for gains in IQ scores in randomly chosen students who were described as likely to show "academic spurts." While the Rosenthal and Jacobson study, as reported in Pygmalion in the Classroom, and expectancy research in general has been the target of much criticism, Larsen concludes that "the accumulated results of research conducted over the past several years have convincingly established that teacher expectations do have the potential to function as self-fulfilling prophecies" (p. 5).

In examining the relationship of expectancies and school performance, Larsen expresses the concern that inappropriate teacher expectations may contribute to the school failure of children labeled as "mildly handicapped." He notes that under the current resource room service delivery model, this group spends much of the school day in the regular classroom where the same expectations which lead to special education referral still exist.

Since it is possible that the negative effects of expectancies are contributing to the school failure of those with mild or moderate handicapping problems, Larsen suggests that it is important to recognize child characteristics which influence teacher behavior. Previous research has suggested that characteristics such as racial/ethnic group, gender, achievement, "handicapped" label, social class, personality, physical attractiveness, and speech, writing and language characteristics may influence teacher perceptions and expectations.

Larsen describes three major implications of the SFP for special education. First, he challenges the traditional assumption that any child who exhibits minor behavior problems or underachievement must possess some handicapping condition, an assumption which implies that any failure is the fault of something within the child. Larsen asserts that the role of instructional style and interaction patterns should be considered under these circumstances, and suggests that remediation should include assisting the teacher in overcoming instructional deficiencies.

Larsen also considers mainstreaming, i.e., the practice of moving children from special education units to the regular classroom. He contends that the possibility for rigid expectations (and thus for SFPs) concerning mainstreamed children is a strong one, and suggests that special educators should become proficient in using classroom observation instruments to monitor the instructional opportunities given to the mainstreamed child in the regular classroom.

Finally, Larsen contends that it is important to monitor the labeling of a child as "high risk," lest this label lead to an SFP. He states that special care must be taken to avoid assigning labels based only on language and demographic characteristics. Such labels are a danger in that children whose only failure is in meeting teacher expectations can be inappropriately referred to and included in special education programs.

Larsen's suggestions seem particularly relevant to the LEP handicapped child, who may be highly prone to negative teacher expectations which lead to

SFPs. Once such a child is labeled, the teacher may feel justified in his/her lower expectations, and act in accordance with them. Larsen's suggestion that remediation efforts should focus on teachers as well as students therefore seems especially important.

Hiebert, B., Wong, B., & Hunter, M. (1982). Affective influences on learning disabled adolescents. Learning Disability Quarterly, 5, 334-343.

These authors state that affective and social aspects of learning disabilities have not been fully investigated due to an emphasis on diagnosis and remediation in learning disability research. They find this to be especially true for adolescent populations. Therefore, this study examines the academic self-concept and future expectations of learning disabled (LD) and nonhandicapped adolescents. Teacher and parent expectations for and perceptions of both groups are also explored.

Subjects were 82 students in grades 8 and 10 (39 LD and 43 normally achieving) who were selected by their school counselors, English teachers and skill development teachers. Dependent measures assessed four areas: expected future academic performance, academic self-concept, school behavior and home (parental) stress. Future expectations were measured with the Projected Academic Performance Scale, which asks how well students expect to like, and how well they expect to do, in various academic subjects. With appropriate wording changes, this scale was also administered to teachers and parents. The Student's Perception of Ability Scale, a measure of academic self-concept in a variety of academic areas such as reading, spelling and math, was administered to students only. The Devereaux Adolescent Behavior Rating Scale, which assesses acting-out type behaviors such as hyperactivity and inability to delay, was administered to teachers. Finally, the State-Trait Anxiety Inventory, which provides measures of both transient and chronic anxiety levels was administered to parents. It is not clear from the authors' description whether one or both parents completed this scale and the expectation measure.

Results were analyzed using a series of t-tests which compared ratings of and by LD and normally achieving students. Significant differences in expected academic performance were found for self, parent and teacher ratings, with all groups anticipating lower performance from LD students. LD adolescents' academic self-concept scores were significantly lower than normal achievers' in all areas except penmanship. Teacher behavior ratings were indicative of significantly more aberrant behavior on the part of LD students for all areas except heterosexual interest. No differences were found for parent stress measures, causing the authors to suggest that "other components of parental stress may outweigh or obscure any additional pressure associated with having a learning disabled adolescent" (p. 340). Post hoc analyses which considered age, sex, grade level and school differences in dependent variables ing ANOVAs did not result in any further significant differences.

The authors describe the total picture they find of the LD adolescent as ly dismal." These students have lower expectations for and evaluations themselves than do normal achievers, and these lower expectations are

echoed by teachers and parents. The authors note that previous self-concept research has resulted in contradictory findings in that some studies have found LD students' self-concepts to be lower than those of normal achievers while others have found no differences. They suggest that separating academic self-concept from general self-concept may resolve these contradictions, and conclude by stating that there is a need to help the LD adolescent and those around him/her take a more positive view of the possibilities for future academic achievement.

This study is interesting in that it considers a variety of persons from whom expectations for the LD child may come. It suggests that any attempt to change the expectations for an LD student will need to be both home and school based. Although this study does not consider peers, it also seems possible that their expectations might be important to the LD adolescent and that peers should be included in any positive affect building program, such as the one the authors suggest. As with all studies reviewed here, subjects in this research were neither limited English proficient (LEP) nor Hispanic. It would therefore be interesting to obtain a similar picture of self, teacher and parent expectations and perceptions for a handicapped LEP population.

Boersma, F. J., & Chapman, J. W. (1982). Teachers' and mothers' academic achievement expectations for learning disabled children. Journal of School Psychology, 20(3), 216-221.

The purpose of this study was the examination of teachers' and mothers' academic achievement expectations for learning disabled (LD) and normally achieving third-grade children. In contrast to previous studies, the possible confounding effects of intellectual ability were controlled.

Subjects were 143 children selected from 11 urban public schools. LD children received part-time remedial assistance, primarily for reading. Normally achieving children were "doing well in school" and had no history of special class placement. Both groups were from similar, middle-class backgrounds (based on fathers' occupations), and had similar IQ scores on the Weschler Intelligence Scale for Children-Revised (WISC-R). The two groups' scores on the Wide Range Achievement Test (WRAT) and on the Pupil Rating Scale (a teacher rating scale designed to screen children for learning disabilities) differed significantly.

Expectations of future achievement were assessed using a shortened version of the Projected Academic Performance Scale. The scale consisted of 12 items which were rated on a four-point scale, and asked for predictions of students' achievement in six areas (spelling, reading, language arts, math, social studies and science) "next year" and "when _____ is older." Data were collected from children's home-room teachers (N=28), mothers of LD children (N=63) and mothers of normal achievers (N=69). During data collection, teachers and mothers were told that the study dealt with affective characteristics of school learning in children, and no mention of interest in learning disabilities was made.

Teachers' and mothers' ratings were analyzed separately, using 2 x 2 ANOVAs with childrens' gender and classification (LD or not) as independent variables. Results indicated that teachers expected LD children to perform less well than normal achievers in all academic areas. Mothers of LD children had lower expectations for their children's future performance in spelling, reading, language arts and social studies than did mothers of normally achieving children. The two groups of mothers did not differ in their expectations for future performance in math and science.

The authors point out that, according to previous research, the learning disabilities of children with average IQs can be remedied. Therefore, mothers' and teachers' expectations may be unduly pessimistic despite the fact that they are consistent with childrens' prior achievement. They suggest that children of whom more is expected may in fact achieve more, and cite studies which suggest that lower achievement expectations may be translated into more negative teacher and parent behavior. They state that their data indicate a positive prognosis for mild forms of learning disabilities, although it is not clear why this might be so. They conclude by citing a need for further exploration of procedures for educating parents and teachers about the importance of expectations of significant others to the LD child. Presumably, they might also suggest that these expectations should be raised whenever possible.

This article illustrates two ideas which might be important when considering the LEP handicapped child. First, along with previous research, it points out that teachers hold lower expectations for a child who differs from the "average" and suggests how harmful these altered expectations might be. In addition, this study suggests that the child is involved in a number of social systems—all of which form expectations which may be influenced by the presence of a handicapping condition. Therefore, focusing interventions designed to remediate a handicapping condition on the child alone will probably not achieve desired results. There is a need to involve parents and regular classroom teachers in the remediation process.

Aloia, G. F., Maxwell, J. A., & Aloia, S. D. (1981). Influence of a child's race and the EMR label on initial impressions of regular-classroom teachers. American Journal of Mental Deficiency, 85, 619-623.

The authors begin by noting that with the passage of Public Law 94-142, the Education for All Handcapped Children Act, regular education teachers have assumed a larger role in the education of handicapped students. They find that there is a paucity of data about the effects of educational labels and race/ethnicity of mainstreamed students on teacher's initial impressions of children, and suggest that these impressions may be important in forming teachers' expectations for their students. Therefore, the purpose of this study was to examine label and ethnicity effects on teachers' initial impressions.

Ninety-nine regular classroom elementary school teachers who were attending summer school at a state university were asked to participate in a study of "initial impressions." They were told to imagine that they were

teaching fifth grade, and given a photograph of an 11 year-old male who was described either as "in fifth grade" or as "attending a class for [educable mentally retarded] EMR students." Further information about how much time the child spent in the EMR classroom does not appear to have been provided. Photographs, which had been judged to show a child of average attractiveness by a different group of teachers during a pilot study, showed an Anglo, Black or Mexican-American child. Race/ethnicity and label status (handicapped or not) of the child were varied randomly across subjects. Subjects were asked to rate the child's attractiveness, intelligence and potential classroom behavior using a nine point scale.

Ratings were analyzed using a 3 (race) x 2 (label) multivariate analysis of variance. While the overall F for race/ethnicity was significant, no follow-up univariate analyses of racial/ethnic group differences yielded significant results. The authors explain this by pointing out that while there is no significant difference among ratings of the three racial/ethnic groups, there appears to be a difference in ratings of Anglo and non-Anglo children. When ratings for each group are combined across labeling conditions, attractiveness and intelligence rating means are highest (most favorable) for Anglos, while the mean behavior potential rating is highest (most favorable) for Blacks. Multivariate analysis results for label status were highly significant. Univariate analyses showed that labeled children were rated as less intelligent than nonhandicapped children. Finally, univariate interaction analyses showed a significant interaction between race/ethnicity and label for behavior potential ratings. Teachers expected labeled Blacks and Mexican-Americans to present more of a behavior problem than labeled Anglo children.

The authors conclude that both race/ethnicity and handicapping labels influence teachers' first impressions of children. They note that these effects differed across areas of perception; i.e., labels alone influenced impressions of intellectual potential, while both label and race/ethnicity appeared to influence ratings of behavior potential. They suggest that future research might consider how teachers' impressions change over time and what variables might cause change.

Although this study is limited by its lab setting and its use of a select group of teachers (those who attended summer school), it is one which is of great interest in that it considers the effects of ethnicity and a handicapping condition simultaneously. Its results suggest that there is a need to consider both variables in examining teacher expectations and interactions. It would be desirable to repeat this study and to conduct others like it to examine expectancies for female children and for children with labels other than EMR. It would further be desirable to examine the effect of limited English proficiency on teacher first impressions.

Conclusions

Several conclusions about teacher interactions with Hispanic and handicapped children can be suggested based on the studies annotated here. First, it does appear that student ethnicity has an effect on interaction. At the very least, these studies suggest that the classroom is a less positive place for Hispanic children than for Anglo children; at most, it would appear that the Hispanic student is largely excluded from most of the interactions that the U.S. Commission on Civil Rights study cited before described as "the heart of the educational process." Studies which have considered language dominance effects suggest that the absence of proficiency in standard English serves to diminish teacher expectations and further heighten the isolation of the student.

It also appears that the presence of a handicapping condition influences teacher-student interaction. Several studies suggest that one of the effects of a handicapping condition seems to work in opposition to the effects of minority group status in that teachers interact more frequently with handicapped students. However, there is no suggestion that this greater frequency of interaction (or any other difference in interaction documented for handicapped students) makes the classroom a more positive place than it was found to be in studies of Hispanic children. Rather, the studies presented suggest that the greatest number of interactions with handicapped children are behavioral or procedural, with teachers using most of their interaction time with handicapped students to deal with the more negative and inappropriate behaviors that these students display.

As was mentioned before, no study has considered teacher-pupil interactions of students who are both handicapped and Hispanic and/or LEP.

Therefore, the combined effect of these student characteristics cannot really be assessed. However, using the results obtained when these groups have been considered separately as suggestions of what this group's interactions may be like, it would appear that the classroom is not a positive place. Interaction with teachers is likely to be limited, and that interaction which takes place seems most likely to consist of statements that tell the child what to do. Interactions which challenge the child to think or which reinforce the child for effort or work produced seem likely to be few.

If future research bears out this rather grim picture of the handicapped LEP student's classroom life, some of the suggestions made by the researchers whose work has been presented here would seem to be particularly important. As Campos (1983) pointed out, there is no reason to believe that teachers are interacting in negative ways with certain students because they in some way "want to." Rather, these negative patterns of interaction suggest the need to develop, implement and evaluate improved methods of pre and inservice training which will assist teachers in dealing with multicultural, limited English proficient and handicapped children. As Larsen (1975) and others suggest, it would seem especially important to build in opportunities to observe the teacher as he/she works in the classroom so that feedback and suggestions for improvement can be offered. It would also seem critical to begin by keeping these observations separate from job evaluations which are related to promotion and other such considerations.

Additionally, it seems important to work with the classroom as a system rather than simply focusing on the teacher. As several of these studies have pointed out, some of the more negative teacher interactions observed with handicapped students happen in a context of more negative and inappropriate behavior from the student. Therefore, any attempt to obtain a more positive

classroom atmosphere for these students will need to be accompanied by suggestions for better managing these students' behavior, or by programs which teach these children how to more effectively meet the behavioral expectations of the regular classroom. It seems likely that such programs would be most effective if they alter all the expectations for achievement with which the child interacts; i.e., if they involved teachers and parents as well as children themselves.

These suggestions indicate a number of areas in which future classroom interaction research is needed. First, it seems important to describe the interaction patterns of handicapped LEP students. Following this, it would seem desirable to research what could be done to assist teachers, students and parents in constructing the classroom interaction patterns which would best facilitate student motivation and achievement.

Appendix:

Instrumentation

The descriptions which follow are based on information from Borich, G.D. & Madden, S.K. (1977). Evaluating classroom instruction: A sourcebook of instruments. Reading, MA: Addison-Wesley Publishing Co.

1. Flanders System of Interaction Analysis

The Flanders is an observation coding system which Borich and Madden describe as "the instrument most frequently used to analyze the influence of teachers in the classroom" (p. 449). The instrument examines teacher behaviors which cut back or enhance student freedom of action, and provides for the coding of 10 categories. Teacher indirect influence categories include accepts feelings, praises or encourages, accepts or uses ideas of students, and asks questions; teacher direct influence categories include lectures, gives directions and criticizes or justifies authority. Two student categories (student talk-response and student talk-initiation) and a silence/confusion category are also included.

The system is used by a trained classroom observer who selects the category which best describes the communications just completed at three-second intervals. Frequencies and percentages for each category can be calculated. Inter-observer reliabilities as high as .85 have been obtained, and norms are available. Borich and Madden note that although the Flanders has been widely used, it has been criticized for its emphasis on teacher behavior, its lack of well articulated student behavior coding categories, and its implied endorsement of certain teaching behaviors.

2. Brophy-Good System (Teacher-Child Dyadic Interaction)

The Brophy-Good is an observation coding system which separately records individual children's interactions with their teacher. The system's authors maintain that it is often not appropriate to treat the class as a unit without considering intraclass variations in student/teacher interaction, and situations in which the teacher addresses the class as a whole are not considered by this coding system.

Seven general categories of behavior, each of which includes a number of coding options, are recorded. These include:

a. response opportunities (which are divided into direct questions, open questions, call-outs, chorus questions, discipline questions, reading turns and recitation opportunities);

b. level of questions (which include process, product, choice, and self-referent questions);

c. quality of child's response (which include correct, partially correct, incorrect and no response divisions);

d. teacher's feedback reactions (which include praise, criticism product feedback, process feedback, repetition of question, rephrasing of question, asking a new question and no feedback coding questions);

e. work-related contacts (which can be coded as child or teacher-initiated;

f. behavior evaluations (which can be coded as praise, warning or criticism); and

g. procedural contacts (which can be coded as child or teacher-initiated).

Coding is carried out by trained coders, and the system's authors estimate that training requires two weeks. Coder agreement as high as 80% for

most categories has been reached. Coding is done continuously during observation. Data are scored by making frequency counts of each category for each child, and these counts can be combined and/or converted to percentages to allow for comparison between children or groups of children. No norms for the system are available.

Borich and Madden (1977) state that the system has "many advantages and few apparent drawbacks" (p. 349) and note that it is capable of producing extensive data about a classroom.

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